

FINAL CLOSE-OUT REPORT

ROBERTS - VANDEVEN SITES
MONT A/E 88-46-104

FOR

DEPARTMENT OF STATE LANDS
ABANDONED MINE RECLAMATION BUREAU
HELENA, MONTANA

STATE DOCUMENTS COLLECTED

OCT 14 2004

MONTANA STATE LIBRARY
1515 E. GARDEN
HELENA, MONTANA 59601

BY

DELTA ENGINEERING, P.C.
2701 16TH STREET, N.E.
GREAT FALLS, MT 59403
(406) 727-3687

DECEMBER, 1988



1. INTRODUCTION

The Roberts/Vandeven Reclamation Project consists of the reclamation of abandoned, underground coal mines in Blaine and Hill Counties. The following is a brief description of the individual sites involved in this project.

Roberts Site

The Roberts Site is located in Sections 5 and 23, T31N, R17E of Hill County, Montana; approximately 7 miles southeast of Havre. The site consists of several collapsed adits and subsidence holes, a number of slack piles and a large amount of trash and debris. An open air shaft was also a part of the site. Coal slack from one of the piles has been washing into Staten Creek, an intermittently flowing stream that meanders through the project site.

The major objectives of the reclamation effort was to seal the open air shaft to eliminate the safety hazard; bury the slack and debris in a suitable disposal site to eliminate the aesthetic and environmental pollutant; and to restore and revegetate the disturbed area to a natural topographic setting compatible with the adjacent rangeland. The surrounding area is pasture used for cattle grazing.

Vandeven Site

The Vandeven Sites are located in Section 25, T33N, R19E in Blaine County, approximately 7 miles north of Chinook. The site consists of several collapsed adits and subsidence holes, large open piles of coal slack, with scattered trash and debris throughout.

The major objectives of the reclamation effort was to bury the slack and debris in a suitable disposal site to eliminate the aesthetic and environmental pollutant; and to restore and revegetate the disturbed area to a natural topographic setting compatible with the adjacent rangeland. The site is located on semi-arid native grassland and used primarily for cattle grazing.

II. DESCRIPTION OF RECLAMATION CONTRACT

A. Contract Information

Pre-bid Date July 14, 1988

Bid Date July 26, 1988

Lowest Bidders:

CC Moxley & Sons
Chinook, Montana Bid - \$41,519.05

Shumaker Trucking
Great Falls, Montana Bid - \$43,920.00

John Pike Construction
Chinook, Montana Bid - \$46,180.00

Notice of Award Date August 2, 1988

Notice to Proceed Date August 19, 1988

Pre-Construction Date August 22, 1988

Dates of Actual Work August 22 - October 25, 1988

Completion Date October 25, 1988

DSL Inspector Mr. Mike Hiel

Project Engineer Mr. Rich West

Project Inspector Mr. Jim Gold



II. DESCRIPTION OF RECLAMATION CONTRACT (CONT'D)

B. Description of Equipment and Methods Used

The construction techniques and methods used on this project were similar to the methods used on previous reclamation projects of this type. Nearly all of the earthwork was done using a D-9 dozer and a scraper.

The slack piles on the sites were disposed of by burying the material in disposal pits. All suitable material excavated from the disposal pits was later used to topsoil disturbed areas on the site. Some additional topsoil at the Vandeven site was borrowed from the hillside adjacent to the disposal pit.

All subsidence holes, adits and open shafts were backfilled with compacted coal slack or soil. The trash and debris were buried in the disposal pits and covered with a minimum of two feet of slack and topsoil. The disposal pits and all former slack areas were treated with lime at an application rate of 20 tons per acre. The lime was loaded into a small John Deere spreader which was pulled around the disturbed area with a small farm tractor.

The disposal pits and former slack areas were covered with 8" of soil stored from disposal pit excavations. All disturbed areas were then fertilized with a spreader and seeded with a John Deere drill. The reclaimed areas were covered with a paper based mulch sprayed on with hydroseeding equipment. A three-wire farm fence was installed around all of the disturbed areas.

C. List of Equipment Used on This Project

<u>Type</u>	<u>Make and Model</u>	<u># Units</u>
Track Tractor	Caterpillar D9-G	1
Track Tractor	Caterpillar D-9	1
Scraper	Terex TS-24	1
Wheeled Loader	Payloader	1
Trailer Mounted Hydroseeder		1
Farm Tractor	John Deere	1
Disc	John Deere	1
Drill	John Deere	1
Spreader	John Deere	1

III. COST SUMMARY

Roberts Site

<u>Item</u>	<u>Unit</u>	<u>Quantity</u>	<u>Average Unit Price</u>	<u>Total Price</u>
Pit Excavation and Spread	C.Y.	7800	1.25	9,750.00
Slack Removal	C.Y.	9400	1.80	16,920.00
Lime Application	ACRE	2.8	2538.00	7,106.40
3-Wire Fence	L.F.	2847	.88	2,505.36
Revegetation	ACRE	6.5	1727.50	11,228.75
Adit/Subsidence Backfill	L.S.	1	360.00	360.00
Debris Disposal	L.S.	1	320.00	320.00
Topsoil	C.Y.	60	2.00	120.00

			Site Total	\$48,310.51

Vandeven Site

<u>Item</u>	<u>Unit</u>	<u>Quantity</u>	<u>Average Unit Price</u>	<u>Total Price</u>
Pit Excavation and Spread	C.Y.	1790	1.25	2,237.50
Slack Removal	C.Y.	2690	1.50	4,035.00
Lime Application	ACRE	1.65	2538.00	4,187.70
3-Wire Fence	L.F.	2638	.88	2,321.44
Revegetation	ACRE	3.0	1727.50	5,182.50
Adit/Subsidence Backfill	L.S.	1	440.00	440.00
Debris Disposal	L.S.	1	400.00	400.00
Topsoil	C.Y.	820	2.00	1,640.00

			Site Total	\$20,444.14
				=====

Project Total Amount \$68,754.65



IV. SUMMARY OF JOB

The Roberts-Vandeven Project accomplished all of the objectives established for the project with no major deviations from the original reclamation plan. This project did not contain any unique or technical reclamation techniques.

The cost of the Roberts site exceeded the original contract amount due to an unexpected amount of slack at the sites and the need to excavate a second disposal area. Some additional topsoil was also required at the Vandeven site because soil salvaged at the disposal area was of poor quality.

Paper mulch was used at the sites instead of the specified wood fiber mulch. This change was approved by the Engineer's office.

The landowners of the projects were generally satisfied with the results of the reclamation effort. Mr. Dale Wehrly, landowner of the Roberts site was disturbed that the old coal cars on his land were not salvaged. However, neither the State, Engineer, construction crew, or the inspector had any knowledge beforehand of the landowners desire to save these old cars. The coal cars were in extremely poor shape and would normally not be considered worth saving. There were no other landowner problems during the course of this project.

In summary, the Roberts-Vandeven project was a worthwhile, successful effort as it accomplished all of the objectives and goals expected of a reclamation project of this nature.



ATTACHMENT I

ANALYSIS OF CONSULTANT COSTS

PROJECT NAME: ROBERTS - VANDEVEN SITES

PROJECT NO.: MONT A/E 88-46-104

DATE PREPARED: DECEMBER 20, 1988

SERVICE

AMOUNT

ENGINEERING DESIGN

SUBTOTAL ENGINEERING DESIGN: \$ 8,071.00

CONSTRUCTION INSPECTION AND ADMINISTRATION

SUBTOTAL CONSTRUCTION INSP. & ADMIN. \$11,726.00

TOTAL PROJECT ENGINEERING COST: \$19,797.00

TOTAL CONSTRUCTION COST: \$68,755.00

COST COMPARISON - PROJECT ENGINEERING/CONSTRUCTION

ENGINEERING DESIGN/CONSTRUCTION 0.12

CONSTRUCTION INSP. & ADMIN./CONSTRUCTION 0.17

TOTAL PROJECT ENGINEERING/CONSTRUCTION 0.29

